TCP: When to Transmit

- Factors affecting when to transmit
  - How much data has the sending application generated?
  - How much buffer space does the receiver have available?
  - How much data has been sent but not acknowledged?

- Scenario 1: receiver consumes data faster than sender generates data
  - MSS is 1000 bytes
  - RTT is 50 ms
  - Receiver’s buffer size is 3000 bytes
  - Sender generates 1000 bytes every 50ms
  - Receiver consumes 1000 bytes in 25ms
  - Timeline

- Scenario 2: receiver consumes data slower than sender generates data
  - MSS is 1000 bytes
  - RTT is 50 ms
  - Receiver’s buffer size is 3000 bytes
  - Sender generates 1000 bytes every 25ms
  - Receiver consumes 500 bytes in 25ms
○ Timeline without Nagle’s algorithm

○ Timeline with Nagle’s algorithm